

Site Evaluation of Highland Park
UNIVERSITY OF MASSACHUSETTS — BOSTON

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Site Evaluation of Highland Park
UNIVERSITY OF MASSACHUSETTS – BOSTON

SASAKI, DAWSON, DeMAY ASSOCIATES, INC.

Landscape Architecture, Site Planning, Architecture, Planning

JUNE 1966

LETTER OF TRANSMITTAL

SASAKI, DAWSON, DEMAY ASSOCIATES, INC.

LANDSCAPE ARCHITECTURE • SITE PLANNING • ARCHITECTURE • PLANNING • 23 MAIN STREET, WATERTOWN, MASS. 02172 • (617) 936-1180

June, 1966

Chancellor John W. Ryan
University of Massachusetts
100 Arlington Street
Boston, Massachusetts

Re: University of Massachusetts - Boston

Dear Chancellor Ryan:

Please find enclosed our summary report: Site Evaluation of Highland Park, University of Massachusetts - Boston. This study has examined the principal criteria for a location of the University of Massachusetts in the metropolitan core: access and relationship to other institutions and significant existing conditions; the development potential of the site; its capability to support high density development, open space and parking facilities for a campus of 25,000 students; and the planning procedures, technical requirements and design considerations that will have to be met in the planning period ahead in order to utilize the site.

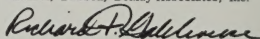
Based on our evaluation, the Highland Park site will satisfy the University's requirements for a centrally located in-town campus. The site is not without limitations. It is small and some of the land is steep. A variety of existing conditions bear consideration for inclusion in a final campus plan. However, the site is large enough and developable, if carefully planned, designed and built to high densities of use.

We can recommend its use, therefore, as a site for the University of Massachusetts' Boston campus.

The next steps to be taken are: first, an official request to the City of Boston for approval of the University's use of the site; second, the development of a detailed work program and schedule for the intensive planning period ahead; and third, the obtaining of planning funds and any necessary enabling legislation.

Sincerely,

Sasaki, Dawson, DeMay Associates, Inc.



Richard F. Galehouse

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TABLE OF CONTENTS

LETTER OF TRANSMITTAL	i
INTRODUCTION	2
THE HIGHLAND PARK SITE	4
Regional Location and Accessibility	4
Land Form and Use	6
Building Conditions and Rehabilitation	7
Boundaries	8
Geological Base	9
THE DEVELOPMENT PROGRAM	10
PLANNING AND DESIGN CONSIDERATIONS	14
Site Design	14
Payment in Lieu of Taxes	17
The Planning Process	18
Conclusion	20



HIGHLAND PARK

INTRODUCTION

The University of Massachusetts, confronting the present and future challenges of higher education in an urbanizing world, seeks to establish a public university in the Highland Park area of the City of Boston.

A location in the city promises multiple advantages to the city and to the University. The University, individually and collectively, will be able to share, explore and draw on the rich cultural and institutional legacy of Boston. It will profit from a central location close to the greatest number of students, faculty and staff. In line with its proposed program, it will use the city as a laboratory in which to study the problems of a technological, urban society at first hand.

The University, established in the center of Boston, hopes to contribute to the dynamic process of revitalizing the city by its building program and academic goals. It will provide Boston with a public "municipal" university at low or no cost to its students. It will add to the number of graduate and professional schools whose students emerge better trained in public service. It hopes to recruit students from disadvantaged areas. In addition, courses of continuing education, programs for special groups and extracurricular events will be made available to the public. As the University expands and matures, its commitment will deepen.

Highland Park is part of the rich and historic fabric of the City of Boston. On its heights, the city and the University have one of the unique opportunities of our time to develop jointly a great, urban university that can bring to Boston the kind of service and leadership that has been given to rural Massachusetts by the University at Amherst.

Photograph 1
View of the City of Boston
showing Highland Park

Proximity to Urban Resources



Major Institutions

* Academic

* Medical

○ Cultural

0 15 M

Figure 1

THE HIGHLAND PARK SITE

Regional Location and Accessibility

Three sites in the City of Boston were considered for the Boston campus of the University of Massachusetts: Highland Park, Columbia Point and the East Boston Waterfront. All three sites are relatively small and have some on-site limitations to development.

In the Boston region, however, the Highland Park site is superior. It is strategically located at the geographic center of the city in the western corridor leading to the growing suburban area, adjacent to major new highways and mass transit facilities, and within the great belt of cultural and educational facilities in the City of Boston.

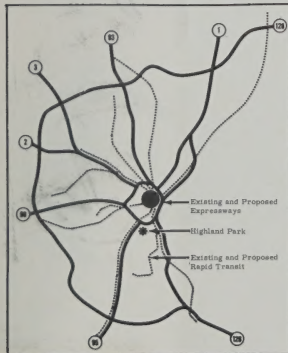


Figure 2
Major Transportation Facilities

Highland Park is located at the juncture of the proposed Southwest Expressway and Inner Belt which will place the site within convenient reach of the entire region on high speed, high volume highways. Mass transit facilities of the MBTA linking Route 128 and downtown Boston with connections to the entire system will parallel the Southwest Expressway. At least two MBTA stops will be placed along this western boundary of the site. Two major existing streets, Washington Street and Columbus Avenue on the east and west, and two new arterial streets, New Dudley Street and Washington Park Boulevard on the north and south, will knit the circulation system of the University to the city.

Highland Park is adjacent to the great complex of medical facilities of Harvard and other private institutions, and within sight of the Fenway with its complex of universities, colleges, museums and other cultural and educational facilities. These facilities will provide an important and unique resource and experience that cannot be duplicated on any single campus.

Development Factors



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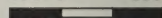


Figure 3

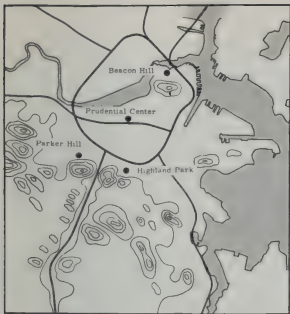


Figure 4
The Boston Basin

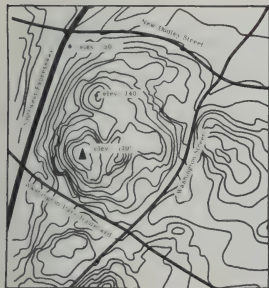


Figure 5
Topography of Highland Park

Land Form and Use

The Highland Park site is a prominent hill in the necklace of hills ringing the Boston basin. Highland Park and opposing Parker Hill will form one of the principal and most dramatic gateways into the City of Boston upon completion of the Southwest Expressway. In this location the University will become a highly visible and important landmark.

The site comprises approximately 165 acres of land, rising to a height of 170 feet near the center. A grade differential of approximately 135 feet exists between Columbus Avenue at the foot of the hill and Highland Park at its crest. The configuration of the site is that of a low hill, the crest of which is punctuated by three rocky outcrops. The Highland Park Monument is on the highest of the outcrops. Edges of the hill to the west and south are precipitous and rocky. The site is a homogeneous piece of land, topographically and socially, in the scale of the city.

Most of the 165 acres are residentially developed. Undeveloped portions are either excessively steep and rocky or have been held open by virtue of being park space. Recently, many single lots have been cleared of decrepit structures.

Some commercial and industrial uses are located along the western and northern edges of the site, with small, neighborhood-oriented corner stores in the interior. The site's most significant concentrations of commercial and industrial use along Columbus Avenue will be removed, according to present plans, by the construction of the Southwest Expressway. The depressed character of Washington Street will be substantially changed by the relocation of the elevated MBTA parallel to the Southwest Expressway.

Institutional, public and semi-public uses (e.g., playgrounds, parks, schools, churches, etc.) account for slightly over twenty acres, or about 12 percent of the site's total acreage, and are distributed randomly over the site.

The pattern or "grain" of development shows higher development densities along the slopes of the site, with lower, less intensive use on the more level, central portions. This pattern indicates that early construction attempted to take advantage of views over the city, but even more important, that lower land costs probably were attached to the less buildable hillside sites. What appear to be structures of higher quality are sited more generously on the site's upper, more central portions. This central area also contains the site's only sizeable amounts of relatively open, vacant land. Progress could be made on the University's building program first in these areas, saving the more densely developed hillsides for later stages.



Photograph 2
The First Unitarian Church
in Eliot Square

Building Conditions and Rehabilitation

In general, the condition of existing buildings on the site is poor. The site contains some 800 single, two-family and row houses, six churches, four schools and eight other institutional buildings. They are predominantly built of brick or wood frame and are three stories high. Approximately 1,100 families or a total population of less than 5,000 persons live on the site. The 1960 Census showed a population of approximately 7,000 persons. This decline is probably one indicator of the rapid deterioration of structures and general environment of Highland Park in the last six years. The Census of Housing and recent surveys by the Boston Redevelopment Authority also point out the spreading blight. Fifty-seven percent of the structures are deteriorating. Fifteen percent are dilapidated, unsafe and inadequate for shelter and the number of vacant buildings is rising.



Photograph 3
Decrepit Buildings



Photograph 4
Buildings of Architectural Merit



Photograph 5
Washington Street Boundary

However, there are some streets on the eastern and southeastern slopes where a pleasant residential scale is reinforced by a relatively high degree of maintenance. A few buildings of historic and architectural merit are scattered throughout the site. Federal funds are now available under the urban renewal program to move such structures for preservation and, at the same time, to permit the assembly of larger blocks of developable land.

Some selective preservation and rehabilitation of individual structures and several small neighborhoods should be considered for inclusion in a long range plan for Highland Park.

Boundaries -- Site Limitations

The Highland Park site is bound by uses which clearly delineate a topographically coherent campus area. These boundaries will, however, preclude any significant expansion off the site in the future should such expansion be desired or needed.

Because of the limited site size and strongly drawn boundaries, it is essential that the full development potential of every acre of the site be realized.

The site boundaries are the proposed Southwest Expressway and MBTA line to the west; the proposed high school and New Dudley Street to the north; a major new road, Washington Park Boulevard, to the south; and the Washington Park urban renewal area to the east.

The relationships of the campus to its boundaries are matters to be explored in detail in the planning period ahead. For example, it may be possible to arrange some mutual sharing of functions with the proposed high school; air rights might be developed over the Southwest Expressway and Washington Park Boulevard; and it may be both feasible and desirable to bridge the Southwest Expressway and link Highland Park to Parker Hill.

Geological Base

The Highland Park site has been examined by a soils engineer to determine its geological structure and potential for high density development. With the exception of very steep gradients already mentioned, the entire site is buildable and able to support high rise buildings on shallow foundations. Because of the underlying rock some additional cost will be incurred for foundation and utility excavation.

An abundance of bedrock outcrops gives evidence of the subsoil existence of massive bedrock, identified as the Roxbury conglomerate. The soil overlying rock is glacial till, a dense, relatively impermeable veneer of five to ten feet. Locally, on the flanks of hills in the northeastern portion of the site, it thickens. In the area of the MBTA yards a cut twenty feet into the glacial till failed to encounter rock.

Fill occurs throughout the site behind retaining walls, on terracing, in low areas, over the former marshlands of the Boston basin deposit north of the site and west of Notre Dame Academy to the south. Special foundation treatment would be necessary for high rise development in the low-lying basin area around the perimeter of the Hill.



Figure 6
Subsurface Soils Conditions
of Highland Park



Photograph 6
Monument and Rock Outcrop

THE DEVELOPMENT PROGRAM

The Boston campus of the University is being planned for an enrollment of 15,000 students in 1980. The site will be planned to accommodate as many as 25,000 students in the future. It was for this ultimate enrollment that the development potential of the site was tested and development found to be feasible.

The University in Boston will feature a strong undergraduate program of liberal arts. Professional training will be concentrated in the graduate program, which is expected to constitute about 25 percent of the student body.

In order to minimize the impersonal qualities of a large university, without destroying the many advantages of large scale, the University will be planned in constituent units or "colleges" of 5,000 students, each with its own academic administration and its own physical identity within the campus.

The University of Massachusetts in Boston will be a commuter institution. Attention is being given the need to encourage and provide housing for faculty and students in the vicinity, but the nature of the program and the small site preclude provision of extensive dormitory facilities.

Table 1 summarizes the building and parking space requirements for each constituent unit of 5,000 students, the total requirements of the 1980 program of 15,000 students, and a future enrollment of 25,000 students. The estimated gross building space for a single constituent unit is approximately 2,000,000 sq. ft.

Since high-rise buildings will be necessary on the small site, an estimate has been made of the proportion of building space per constituent unit that should be serviced with elevators. Approximately 1,000,000 sq. ft. of the total 2,000,000 sq. ft., or half of the required space needs elevators. The remainder should be within three floors of the main student circulation level.

Program Requirements -- 25,000 Students

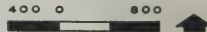


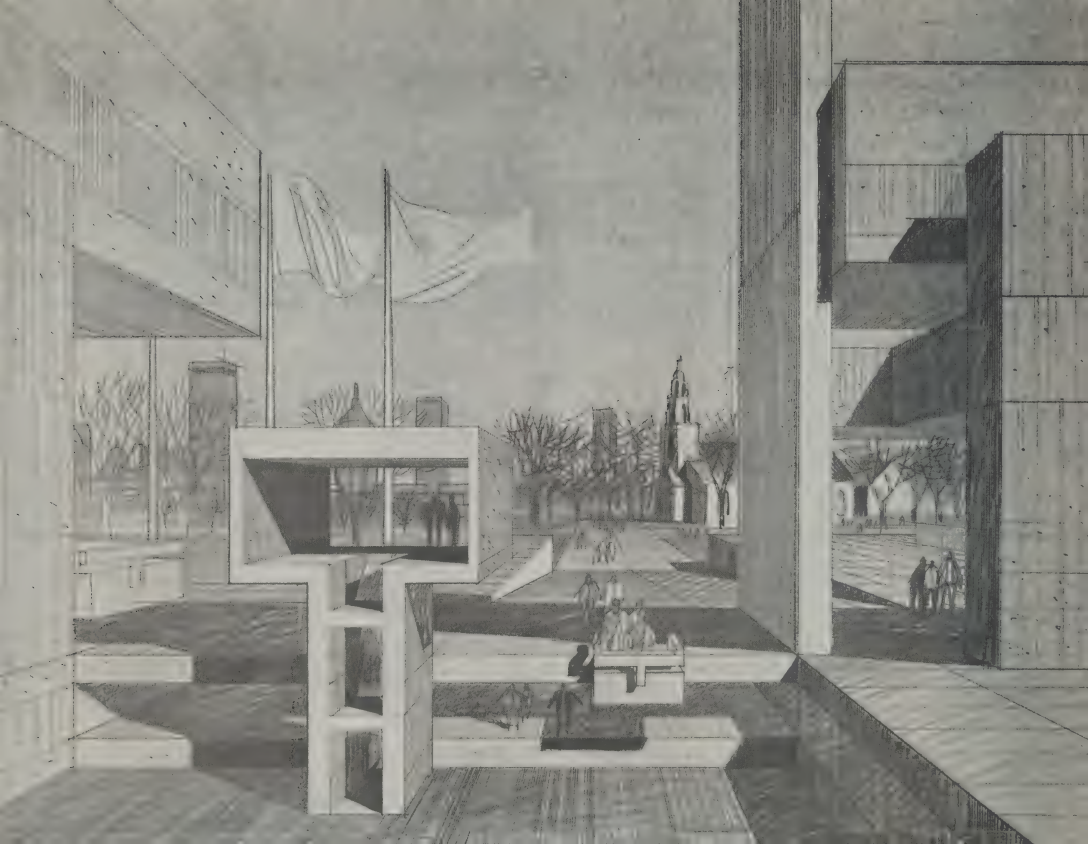
Figure 7

In order to test the site for size, the total space requirements of each constituent unit were placed in six story building modules, with approximately half of the total space requirements on the first three floors.

Figure 7, "Program Requirements - 25,000 Students", shows the overall land requirements for the academic, support, open space and parking space requirements for a future campus of 25,000 students. This test of the size of the site shows that the entire 165 acre site will be needed, and that the campus will have to be carefully planned and developed to high densities.

TABLE 1 Summary of Preliminary Development Program

NAME OF FACILITY OR USE	SQUARE FEET REQUIRED					
	Per Constituent Unit of 5,000 Students		1980 15,000 Student Level		Future 25,000 Student Level	
	NET	GROSS	NET	GROSS	NET	GROSS
1. Library - Graduate & Research	a	a	350,000	525,000	420,000	630,000
2. Library - Constituent Unit	85,000	130,000	255,000	390,000	425,000	650,000
3. Classroom, Lab & Other Instruct.	430,000	650,000	1,300,000	1,950,000	2,150,000	3,250,000
4. Faculty Office Space	50,000	75,000	150,000	225,000	250,000	375,000
5. Administrative Uses	12,500 ^b	19,000 ^b	52,500	78,000	87,500	130,000
6. Health Services	a	a	9,000	13,500	15,000	22,500
7. Dining Commons	36,000	54,000	108,000	162,000	180,000	270,000
8. Union and Recreation	25,000	37,500	75,000	112,500	125,000	187,500
9. Intramurals, Athletics & Rec.	27,000	40,000	81,000	120,000	135,000	200,000
10. Auditorium, Theatre, etc.	2,000 ^c	3,000 ^c	46,000	69,000	50,000	75,000
11. Utilities, Warehousing, Service, etc.	a	a	100,000	150,000	120,000	180,000
TOTAL BUILDING SPACE REQUIRED	667,500	1,008,500	2,526,500	3,795,000	3,957,500	5,970,000
12. Parking ^d	-----	300,000	-----	900,000	-----	1,500,000
TOTAL SPACE REQUIRED				4,695,000		7,470,000
a. Not applicable to constituent unit space total.	c. Excludes University-wide Auditoria.					
b. Excludes "Central Administration" space.	d. Open lot.					



PLANNING & DESIGN CONSIDERATIONS

Utilization of the Highland Park site presents both problems and opportunities requiring resolution in the planning period ahead. First, the site itself will require unique planning and design solutions quite unlike the Amherst campus. Second, the University's presence on the Highland Park site will remove property paying approximately half a million dollars to the city in property taxes. Some payment in lieu of taxes will be necessary. Third, an intensive and comprehensive planning program, directed by the University and carefully coordinated with the city's program, will be necessary to meet the complexities of utilizing the site and the requirements of the city.

Site Design

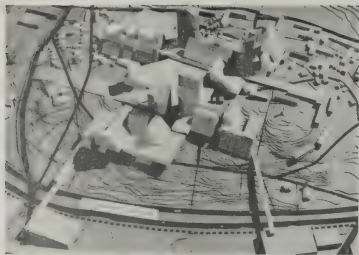
In order to further test the development potential of the site, preliminary schematic designs were tested on a site model. From these schematic designs and overall site configuration, key planning and design guidelines have emerged.

Design of the campus should begin with the consideration that Highland Park is a prominent landmark at one of the principal gateways to the city. The composition of buildings on this site will make a strong impact and will be highly visible from all directions. Conversely, on the site, the composition and orientation of buildings should recognize the magnificent view and design relationship north to the city and the Boston basin. Because of the site's limited size and hilly topography, the solutions to pedestrian movement on the site will be one of the most critical considerations in the development of the master plan.

The campus will be constructed in stages, which underlines the need for early planning of overall form. The University's program is based



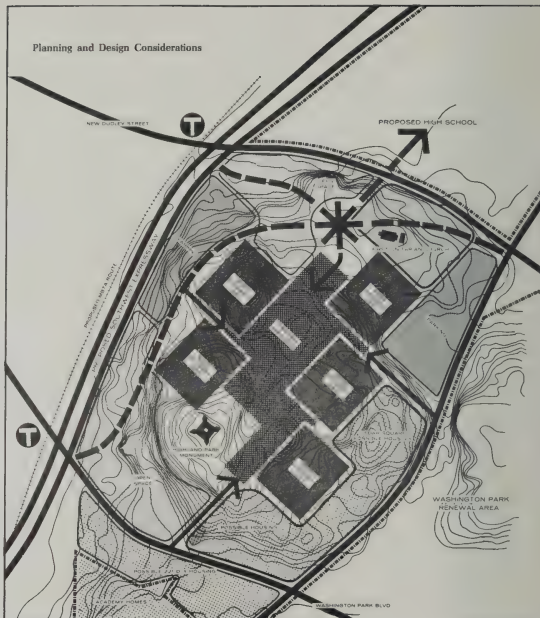
Figure 8
Artist's Conception from the
New Campus looking towards
Eliot Square and the City of
Boston.



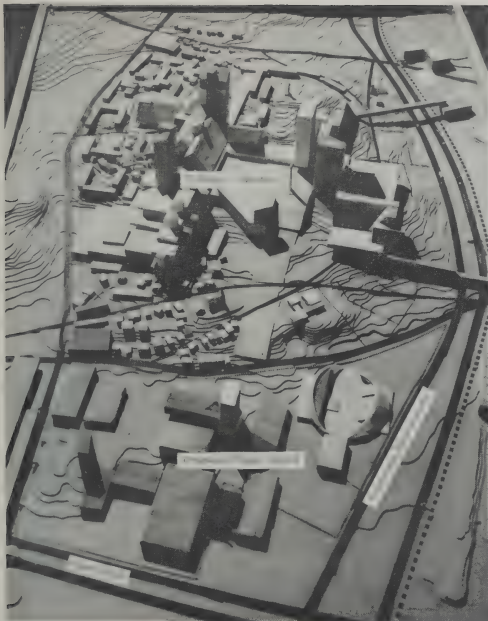
Photograph 6
The new campus must be closely tied to the Southwest Transportation Corridor.



Photograph 7
The composition of University buildings should reinforce the landmark characteristics of the Highland Park Site.

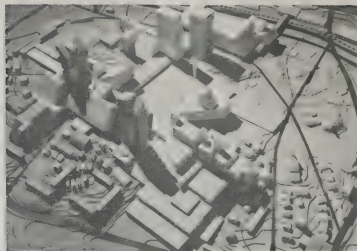


The plan and model photographs illustrate preliminary designs that have been prepared to test the development potential of the site and to establish key planning and design guidelines for the planning period ahead.



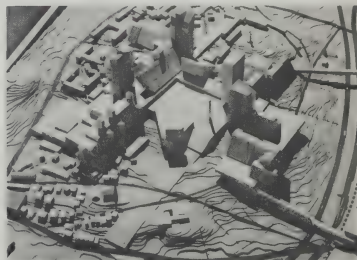
Photograph 8

The new campus, together with the proposed comprehensive high school, will constitute a major center of activity in the metropolitan area.



Photograph 9

The 25,000-student development program adapted to the limitations of the site will require an intense urban scale of design.



Photograph 10

The relationship of buildings on the site should recognize the magnificent view north to the Boston Basin.

on a constituent unit for 5,000 students. A logical building schedule, therefore, would provide complete facilities for 5,000 students, faculty and staff in large, highly integrated units. The University's capital outlay program for planning and building the Boston campus will have to be tailored to its staged growth.

One of the most important and difficult problems to resolve in the planning period ahead is the relationship of major new highways and mass transit facilities to the campus. Preliminary design for both the Southwest Expressway and the new MBTA line has preceded the University's consideration of the use of the Highland Park site for its Boston campus. The relationship of these transportation facilities to the University will require careful and renewed study. A large student population, support faculty and staff will place heavy peak loading demands upon both the MBTA and Southwest Expressway and their points of interchange.

17

Payment in Lieu of Taxes

A payment by the University to the city in lieu of taxes may be a precondition to the University's use of the Highland Park site. Boston, which relies heavily on real estate taxes for income to finance its municipal services, collects revenue on less than 60 percent of its real property because of its high number of tax exempt educational institutions. The existing tax return on the site is approximately \$500,000 and normally, the city plans to double its tax revenues in redevelopment areas.

The following alternatives should be considered in reaching a mutually agreeable tax formula with the city: assumption by the University of some municipal services, utilization of air rights, the integration of multi-purpose taxpaying facilities into the campus plan, and private development for some campus facilities.

The University will be able to contribute financially to the city in many other direct and indirect ways. Great universities generate industrial and commercial development in their environs. While this stimulation is difficult to measure, there is no question that modern business and technology is attracted to the reservoirs of highly-educated manpower. The University, itself, will be a significantly large, new employer in the city with a large payroll. As the University develops, it is probable that some of its programs will generate "spin-off" commercial activities of positive economic value to the community. Filling of Fort Point Channel will provide Boston with land for a large, new industrial complex within sight of Highland Park, and the Southwest Expressway corridor is likely to become an important channel of high intensity commercial development. In these areas, interaction between University and city can only strengthen both.

18

The Planning Process

Highland Park is part of the North Dorchester-Roxbury urban renewal project. Under the urban renewal process, the Boston Redevelopment Authority will acquire the land, clear the designated land, relocate existing residents and sell the land to the University. The University's role is essentially one of prime developer for the entire 165 acre site.

Selective clearance of badly deteriorated structures has already begun through the city's code enforcement program. Under urban renewal the city has estimated that half the site could be made available to the University in three years and the entire site in five years. This time schedule would permit the University to begin construction of the first

stage in three years or possibly earlier, depending on the pattern of the city's early land acquisition program.

Some existing housing on the site could be rehabilitated and used for existing residents or University faculty and staff. It may also be desirable to develop some additional new housing on the site under the 221D-3 Federal Housing Program for low to middle income families.

Any relocation of existing residents will be the responsibility of the city under the urban renewal program. The City of Boston is specially equipped to handle relocation problems, as evidenced in the Washington Park project where as many as fifty families per month were found new housing. In Highland Park, rapidly deteriorating conditions have resulted in diminishing population. Any relocation would be a gradual process phased over the five-year planning period.

After acquisition, relocation and clearance, the Boston Redevelopment Authority will sell the land to the University. The city has estimated the resale value of the land at approximately \$10,000 per acre, for a total estimated cost of the site of \$1,000,000 to \$1,500,000, depending on the final acreage count exclusive of streets and other public places.

The University, in its role as developer of 165 acre site, will be expected to prepare a long range comprehensive plan for the entire area for review by the Boston Redevelopment Authority before final approval can be given by the city. The plan must include generalized land use, circulation, overall design character and staging of development. The Boston Redevelopment Authority will review the University's specific plans for development as these are drawn.

In order to meet the planning requirements of the Boston Redevelopment Authority and the complexities of the site, the University will have

to develop a highly sophisticated planning program. An Office of Institutional Research with a full-time planner and assistants will also be required to coordinate the intricacies of urban renewal planning. This "in-house" planning and coordinating capability will be in addition to the normal component of planning and architectural consultants.

Conclusion

Development of the Highland Park site opens a field of planning and design to the University, totally different from that experienced on the Amherst campus. The Amherst campus has developed in slow stages until very recently, on large tracts of open, undeveloped land. The University of Massachusetts - Boston must be developed rapidly on a site limited in size and shape. Very large increments of the campus will have to be built at one time in order to maximize use of the land.

In Amherst, the community and the University have been able to co-exist and grow separately with relative ease. In Boston, the surrounding environment of the Highland Park site typifies the older sections of urban America. The urban renewal process in which the University will be involved gives rise to a whole set of new concerns and challenges and the City of Boston will have a continuing and substantial review capacity over the University's plans.

While utilization of the Highland Park site will require new programs, techniques and attitudes, a more appropriate site to meet the goals of the Boston campus will not be easily found.



PHOTO CREDITS

Aerial Photo of Boston, Page 1
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Boston, Massachusetts

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Site evaluation of Highland
Park; UMass., Boston.

